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ABSTRACT

Responding to the current lack of an empirical basis for competency-based teacher certification, Georgia has mandated studies leading to the establishment of empirical criteria. In the Carroll County Competency-Based Teacher Certification Project, the instructional behaviors of some 60 certified teachers and the classroom behaviors of the approximately 1642 students with whom they interact are being studied. Interaction effects being tested include student and context variables. A number of field-tested process measures have been identified and will be used in combination to provide a variety of baseline data on teacher, student, and context variables. Two of these measures are CASES (Coping Analysis Schedule for Educational Settings) and STARS (Spaulding Teacher Activity Rating Schedule). These and other measures allow examination of interaction effects of teaching patterns with various student variables. Context variables will be held constant by examining relationships of process variables to product variables within specific subject areas, types of instructional settings, and relatively standardized school support systems. (PB)

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MANDATED COMPETENCY-BASED TEACHER CERTIFICATION AND THE PUBLIC INTEREST

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In a recent article in the Review of Educational Research by Heath and Nielson (1974) the conclusion is drawn that "an analysis of the research on the relation between specific teacher skills and student achievement fails to reveal an empirical basis for performance-based teacher education." The conclusion is equally applicable to performance-based (or competency-based) teacher certification. Heath and Nielson explain that the conception, design, and methodology of the studies they reviewed precluded their use in such an empirical basis.

Notwithstanding the lack of an empirical basis for competency-based teacher certification at least one or two states have mandated it. Legislators in these states have been led to believe that such laws will bring about salutary changes in the public schools. It seems reasonable enough to require that teachers be competent and that they not be certified if they are not. What seems like a simple and reasonable principle is, however, likely to lead to many pernicious and wasteful procedures.

Since no empirical basis exists, the void is filled by necessity with practices based upon the opinions of those in positions of power within the educational establishment. University departments whose support depends upon adequate enrollments pressure the designers of competency-based teacher education programs to include presumed competencies which they offer and claim to be a necessary part of the armamentarium of the competent teacher. Compliance with the law is necessary, however, and the common folklore of the

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profession becomes sanctified in state approved programs. The recasting of old assumptions and practices in new forms and terminology does not, necessarily, bring about change for the better. The opportunity for desirable change, of course, is there. If empirical knowledge were available, such a legislative requirement for competency would be a welcome incentive to overturn the ingrained habits of the past. In its absence, however, the dominant patterns in the schools of education and the local community prevail.

What if, instead, a state should mandate studies leading to the establishment of an empirical basis for competency-based certification? Would the result be any different?

The Situation in Georgia

An approximation of that circumstance is now taking place in the State of Georgia. Funds are being provided for longitudinal studies of classroom practice and student outcomes. In the Carroll County Competency-Based Teacher Certification Project, for example, funds are being provided to examine in detail the instructional behaviors of some sixty certified teachers and the classroom behaviors of the 1642 or more students with whom they interact.

What are the major factors to be examined in such an effort to assure respect for the public interest? What strategies are being employed at present? The task is monumental and the current series of studies, are, of necessity, modest steps in the building of a valid data base for teacher certification. One need only to scan the recent comprehensive analysis of the research on teaching by Michael Dunkin and Bruce Biddle (The Study of Teaching, 1974) to appreciate the complexity of the task.

Among the significant factors to be dealt with are interaction effects due to the following student variables:

-age related stages of cognitive and physiological development

-differential patterns of student socialization and response to discipline

-intelligence or cognitive reactivity

-prior knowledge regarding subject matter or content variables

-differences in ethnic or cultural background

Setting or context variables also affect the outcomes of instruction. Principal among the interaction effects to be tested for are those related to:

-differences in the degrees of freedom present in the school setting (e.g. freedom to talk, to move about, to remain non-productive, etc.)

-variations in the nature or complexity of the material to be learned (e.g. mathematics, physics, French, history, etc.)

-variations in teacher-student ratios and in the amount of time, space, and material support available

-differences in the time of the day and the day of the week a given subject is taught or a teacher observed

-prevailing patterns of grouping for instruction (e.g. homogeneous grouping of students by achievement or intelligence, departmentalization, etc.)

Some of these setting or context determinants are partially within a given teacher's power to control and the manner in which such power is exercised might reasonably be considered in making a judgment of his or her competence. In large part, however, the student and setting variables outlined above are the relatively fixed conditions with which all teachers must cope. In order to judge teacher competency, such environmental or context factors must be controlled - either by measurement and matching, by standardization, or by randomization. They cannot be ignored without rendering the results of analysis invalid.

Strategies in the Carroll County Project

If the proof of the competence of the cook is in the pudding, and the proof of the competence of the surgeon in the post-operative health of the patient, then the competence of the teacher might well be judged by the quality of student change resulting from a given period of classroom instruction. This somewhat disarming precept is appealing and is easy to accept on face value. The problem, however, is to demonstrate in the real world a methodology that follows such a precept without becoming subject to the numerous pitfalls of field-based research.

The Carroll County Competency-Based Teacher Certification Project is field-based and the approach taken focuses on process-product relationships. During the first year the developers identified a number of promising process measures that had been extensively field-tested and could be employed in combination to provide a variety of baseline data on teacher, student, and context variables found significantly related in one or more process-product studies in the past. Among those chosen for use were OScAR, developed by Don Medley, FLACCS, developed by Bob Soar, and my two measures - CASES and STARS. These three systems examine contrasting dimensions of classroom climate and instructional practice and their use in combination promises to provide a comprehensive view of classroom process in the sixty classrooms included in the first data gathering year.

Data Gathering Procedures using CASES and STARS

In the remainder of this paper I will discuss the underlying strategies guiding the gathering of data this year using CASES and STARS. Bob Soar and Don Medley are here to give explanations of the manner in which their measures are being employed.

CASES is designed to measure the coping behavior of the students in any of a variety of school settings, with primary emphasis on the school classroom. It has 19 categories derived from ego theory, modified by social learning theory and, more recently, behaviorism. (A short form of the instrument is appended.) The 19 categories are of the all or none type, and data are typically gathered on a ten-second time-sampling basis for up to 3 hours at a time. The data reduction process is based on several thousand case studies of students in all sorts of classroom and school environments, supplemented in recent years by factor-analytic analyses. The CASES instrument yields eight sub-scores reflecting classroom behavioral coping "styles" and an overall score based on weights assigned to each coping style. The weights are currently determined by extrapolations from the research literature on personality, social development, and learning. During the second year of the Carroll County Project data from regression analysis should provide information which can improve the predictive validity of the overall CASES coefficients in studies of student achievement.

The eight CASES Style Coefficients measure the extent to which a given student in a given context or school setting exhibits behaviors characteristic of the eight coping styles. These eight are characterized by the following descriptive phrases:

Style A: Aggressive, manipulative

Style B: Resistant, peer-oriented

Style C: Withdrawn, avoidant

Style D: Distractible, peer-dependent

Style E: Adult dependent, attentive, cooperative

Style F: Socially integrative, task-oriented

Style G: Self-motivated, independently task-oriented

Style H: Passive conformist

Fall CASES scores will be used as measures of initial status and the spring CASES data as outcome measures of socialization. The CASES Style scores will also be used to test for interaction effects of types of teaching patterns observed in the Carroll County classrooms.

Two types of instructional settings were noted in the fall data gathering process: one in which the teacher directed the activities of the class as a whole (termed "teacher-directed") and a second in which pupils were given seatwork and the teacher either moved about the room interacting with students from time to time or remained at a desk, responding to students who indicated a need for assistance (termed "program-directed").

The predominant CASES Coping Style of each pupil was determined in the fall semester and six pupils, representing differing Coping Styles observed in the program-directed settings, were randomly selected for subsequent teacher-student transactional analysis during the school year. The patterns of transaction between the six students and their teachers were measured by using the CASES and STARS instruments in combination. STARS includes 25 categories of teacher behavior and the matrix of the two instruments has 475 cells. In theory a teacher could respond to a given pupil behavior by emitting any one of twenty-five behaviors (or types of behaviors) measured by the STARS instrument. Sections of the instrument measure affective behaviors, motor and/or social structuring, concept attainment and concept checking moves, and value expression or solicitation. (A brief form of the STARS is appended.)

In practice, teachers demonstrate relatively stable patterns or habitual responses to specific student behaviors in the classroom.

The CASES/STARS analysis this year has two thrusts. The first is to measure the patterns of transaction the project teachers demonstrate as they instruct the class as a whole or as they monitor seat work sessions. Cell frequencies are tallied on a ten-second sampling schedule for several hours a day, over a ten- to twenty-day sampling period. Subject-matter (content), grade level, time of day, day of the week, degrees of freedom characteristic of the classroom settings observed are noted.

A second analysis focuses on the six pupils in each classroom identified to represent one or another of the eight Coping Styles. Data are gathered over a period of several weeks on the transactions of the teacher with each of the six students. Each student is observed for five minutes at a time in 30 minute cycles. Separate sets of cell frequencies are tallied for each of the six students representing the characteristic patterns of response made by each of the sixty teachers to the six different types of students.

This two-fold approach provides several sets of process scores which should reflect variations in teacher and student classroom transactions by type of student, content area, time of day or week, and instructional context. For example, there will be:

- -an overall CASES/STARS matrix of cell frequencies for each teacher in each type of setting observed
- -an overall CASES/STARS coefficient for each matrix of cell frequencies based on the set of weights assigned on an <u>a priori</u> basis to each of the 475 cells
- -a CASES/STARS matrix of cell frequencies for each teacher for each of the six types of students as defined by Coping Style
- -a CASES/STARS overall coefficient for each teacher for each of the six types of students based on the set of <u>a priori</u> cell weightings

-a set of 10 scores reflecting the degree to which each teacher demonstrates selected patterns of classroom transactions in dealing with the class as a whole

-a similar set of 10 teacher style scores for each teacher for transactions with each of the six types of pupils defined by Coping Style

The ten teaching style scores were constructed on an a priori basis to represent a variety of known styles or patterns such as the "Socratic method," the "discovery method," "lecturing," and the "counselor approach." After the first year, refinements in the instructional styles will be made by visual examination of the data supplemented by factor-analysis.

These strategies using CASES and STARS in combination with OScAR and FLACCS are designed to address the issues cited earlier. Interaction effects of patterns of teaching with variables of student age, sex, grade level, socialization, intelligence, initial achievement in specific content areas, socioeconomic status and cultural background can be examined. Setting variables will be held constant to some degree by examining relationships of process variables to product variables within specific subject areas, types of instructional settings (teacher-directed or program-directed), and relatively standardized school support systems in Carroll County.

In the third project year, a second sample of sixty teachers from the same county will be identified and the data gathering procedure will be replicated. Relationships identified during the first baseline year will be predicted in the second analysis. If the findings of the first analysis are replicated two further steps can be taken with assurance: 1) training programs can be undertaken to develop or strengthen experimentally the classroom instructional behaviors found significantly related to specific desired student outcomes, and 2) a shortened test battery can be developed to identify the presence or absence

of the empirically derived competencies in in-service or student teachers.

The public interest can best be served when the instructional behaviors demonstrated by certified teachers can be measured and be shown to represent empirically validated competencies. When empirically validated methods of assessment are available appropriate changes in teacher education and certification can be made with assurance. Until that time mandated competency-based teacher certification is premature and counter-productive.

References

Heath, Robert W. and Nielson, Mark A. The research basis for performance-based teacher education. Review of Educational Research, 1974, 44 (4), 463-484.

Dunkin, Michael J. and Biddle, Bruce. The study teaching. New York: Holt, Rinehart and Winston, 1974.